California Regional Water Quality Control Board

Central Coast Region

Linda S. Adams.
Secretary for
Environmental Protection

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Arnold Schwarzenegger
Governor

February 11, 2008

Leslie Markham, Resource Manager
Northern Region Headquarters
santarosareviewteam@fire.ca.gov

BY E-MAIL

Dear Ms. Markham:

PREHARVEST INSPECTION (PHI) OF TIMBER HARVEST PLAN (THP) 1-07-143 SCR WHITEHOUSE THP, SANTA CRUZ COUNTY

Key Information

Inspection Date	January 10, 2007	Present (4)	Affiliation
Plan Size (acres)	80	Scott Bullock	California Department of Forestry and Fire Protection
Yarding Type	Tractor Rubber Tire Skidder		
Watershed	Cascade Creek		
Sub drainages	Whitehouse Creek	Michael Huyette	California Geologic Survey
303(d) Listed	No		
Fisheries	Steelhead	Matt Dias*	Big Creek Lumber Company
Landowners	Big Creek Lumber Sterling Trust Company Trustees Greg Carrasco Glenda Andino	Julia Dyer	Central Coast Regional Water Quality Control Board

*Registered Professional Forester (RPF) that signed the THP.

Location

The Whitehouse THP property is located in the Cascade Creek watershed approximately four miles northeast of Franklin Point, California.

History

The 80-acre management area is dominated by second-growth redwood timber that regenerated following clear-cut activities that took place at the turn of the century. The

1980s mark the most recent harvest on the Whitehouse THP, which focused on the removal of residual first growth redwood/fir and thinning second growth timber.

Inspection

Central Coast Regional Water Quality Control Board (Water Board) staff attended the January 10, 2008 inspection as part of the California Department of Forestry and Fire Protection's (CDF) review team preharvest inspection of the Whitehouse THP property. The review team's visual inspection included a majority of the roads, skid trails, landings, and watercourse crossings contained within the THP area.

The proposed harvest includes four new landings, new road construction, and cross falling of trees over Class II and III watercourses. Water Board staff inspected the proposed monitoring site locations for photo, turbidity, and temperature monitoring. Water Board staff and the RPF agree that appropriate photo and turbidity monitoring sites include crossing M3, a skid trail crossing of a Class II watercourse and crossing M6, a culvert crossing proposed for replacement with a bridge. Temperature monitoring shall include a probe at crossing M3 as the upstream station and a probe at the western property line as the downstream station.

During the inspection, Water Board staff identified a collection of non-forest debris at several locations throughout the Whitehouse THP property. All debris, with the exception of intact culverts stored for emergency crossing repair purposes, should be removed from the property (Recommendation #1). If the RPF or landowner discovers any contamination (i.e. visual or odor) in the vicinity of the dump or elsewhere on the property, they should report the conditions to Water Board staff promptly. In addition, all cans, bottles, fuel drums, derelict equipment, plastics, and other non-forest debris present elsewhere on the plan shall be collected and properly disposed offsite.

Additionally, Water Board staff observed several poorly drained roads throughout the plan area. Prior to the first winter period after the commencement of timber operations all roads (temporary or seasonal) should be properly drained (Recommendation #2).

Crossing M6

Crossing M6 is a 48" culvert crossing of a Class III watercourse in the south-east area of the plan. On page 16 of the THP, the Registered Professional Forester describes the crossing:

> "An existing 48" [Corrugated Metal Pipe] on a class III watercourse that is in disrepair and shall be replace with a free spanning bridged crossing compatible with light vehicle use. This crossing shall not be used during hauling operations. The bridge shall consist of either a decked flatcar, boxcar, I beam or cant constructed bridge.
>
> Excavation of the existing crossing shall entail removal of the 48" culvert and portions of a vehicle that was keyed into the fill-slopes of the crossing as armoring. The fill material shall be pulled back to approximately 1.5:1 to provide for a stable configuration. Existing large woody material currently present below the [Corrugated Metal Pipe] shall remain in place to perform as a grade control and prevent and minimize head-cutting upstream of the crossing. The retention of the large woody material shall perform as a metering device for stored sediment upstream of the crossing and to allow for the contiguous input of large woody debris into the stream system over time. The lack of this sediment metering would result in sizeable flushes of sediment input into the stream system during heavy ephemeral flows as evidenced by the rust lines visible within the existing culvert."

Based on Water Board staff's site inspection, Water Board staff characterizes crossing M6 as a culverted crossing of a Class III watercourse. The Class III watercourse approaches the inlet of the existing undersized culvert at an acute angle. The channel experiences a significant change in grade from the inlet to the outlet of the culvert. The right bank of the channel downstream of the outlet of the culvert exhibits signs of active erosion. These conditions indicate that the culvert, at the time of installation, forced the watercourse to deviate from its natural drainage pattern.

Water Board staff has serious concerns that the replacement of this crossing as described could pose a significant adverse effect on the environment (Title 14, CCR, Ch 4, §1037.5(b)). The description of the crossing (both existing conditions and proposed replacement) is too vague for Water Board staff to make an accurate conclusion as to the potential threat to water quality and its beneficial uses. This vague description provides Water Board staff with little assurance that the replacement will

protect the downstream system from receiving sizeable flushes of sediment during heavy ephemeral flows or head-cutting upstream of the crossing after the replacement.

The THP does not reference a consultation or assessment by a fluvial geomorphologist for this crossing. The THP lacks a proper characterization of existing site conditions, design specifications for the replacement structure or grade control structure (including 100-year flow calculations), detailed sketch of the replacement structure or grade control structure, an active construction plan, or a monitoring and maintenance plan for the structures once installed.

Based on the site inspection of crossing M6 and the vague description of the crossing treatment, Water Board staff recommends that RPF update the THP to include proper characterization of existing site conditions at the M6 crossing, including a detailed tape and compass survey of the acute angle approach of the watercourse to the inlet of the existing culvert and the significant change in watercourse grade from the inlet to the outlet of the culvert (Recommendation #3).

Water Board staff also recommends that the RPF update the THP to include design specifications for the replacement structure and grade control structure (including 100-year flow calculations per Title 14, CCR, Ch 4, §923.3(e)), a detailed drawing of the replacement structure and grade control structure, an active construction plan, and a monitoring and maintenance plan for the installed structures (Recommendation #4).

Water Board staff also recommends that the design specifications include a detailed description of how the project will restore the natural drainage pattern of the watercourse (Title 14, CCR, Ch 4, §923.2(h)) and prevent sizeable flushes of sediment during heavy ephemeral flows or head-cutting upstream of the crossing. If restoring the watercourse to its natural drainage pattern is inappropriate or infeasible for this crossing, the RPF should justify maintaining the current drainage pattern of the watercourse (Recommendation #5).

Water Board staff recommends a focused PHI with a fluvial geomorphologist at the M6 crossing (Recommendation #6). Recommendations from the fluvial geomorphologist should be incorporated into the characterization of existing site conditions, design specifications for the replacement structure and grade control structure, detailed sketch of the replacement structures, active construction plan, and the monitoring and maintenance plan for the structures once installed.

According to the THP, "Crossing [M6] shall not be used during hauling operations" meaning that the bridge is proposed for installation after the conclusion of timber harvest activities. This suggests the replacement crossing will be used to serve

purposes other than forest management activities (Title 14, CCR, Ch 4, §926.23(d)). Therefore, Water Board staff recommends that the RPF coordinate with Santa Cruz County staff to provide design standards and applicable policies, including County grading and bridge permits for the M6 crossing (Recommendation #7).

Summary of Recommendations

Recommendation #1: Remove all non-forest debris from the project area.

Recommendation #2: Prior to the first winter period after the commencement of timber operations all roads (temporary or seasonal) should be properly drained.

Recommendation #3: The RPF update the THP to include proper characterization of existing site conditions at the M6 crossing, including a detailed tape and compass survey of the acute angle approach of the watercourse to the inlet of the existing culvert and the significant change in watercourse grade from the inlet to the outlet of the culvert.

Recommendation #4: The RPF update the THP to include design specifications for the replacement structure and grade control structure (including 100-year flow calculations per Title 14, CCR, Ch 4, §923.3(e)), detailed drawing of the replacement structure and grade control structure, an active construction plan, and a monitoring and maintenance plan for the installed structures.

Recommendation #5: The design specifications and described in Recommendation #4 should include a detailed description of how the project will restore the natural drainage pattern of the watercourse (Title 14, CCR, Ch 4, §923.2(h)) and prevent sizeable flushes of sediment during heavy ephemeral flows or head-cutting upstream of the crossing. If restoring the watercourse to its natural drainage pattern is inappropriate or infeasible for this crossing, the RPF should justify maintaining the current drainage pattern of the watercourse

Recommendation #6: CDF conduct a focused PHI with a fluvial geomorphologist at the M6 crossing.

Recommendation #7: The RPF shall coordinate with Santa Cruz County staff to provide design standards and applicable policies including County grading and bridge permits for the M6 crossing.

Forest Practice Rules Cititations

Title 14, California Code of Regulations, Chapter 4:

§926.23(d) Contents of Plan [Santa Cruz County]

"The RPF shall include within the notice to the landowner section of the plan the following statement: "Section 16.22.030 of the County Code states that any road or bridge constructed pursuant to a Timber Harvest Permit [sic: Plan] issued by the State of California, if used to serve purposes other than forest management activities shall be considered new and shall be subject to all County design standards and applicable policies including County grading and bridge permits.""

§923.2(h) Road Construction [All Districts]:

"Drainage structures and facilities shall be of sufficient size, number and location to carry runoff water off of roadbeds, landings and fill slopes. Drainage structures or facilities shall be installed so as to minimize erosion, to ensure proper functioning, and to maintain or restore the natural drainage pattern. Permanent watercourse crossings and associated fills and approaches shall be constructed where feasible to prevent diversion of stream overflow down the road and to minimize fill erosion should the drainage structure become plugged."

§923.3(e) Watercourse Crossings [All Districts]

"All permanent watercourse crossings that are constructed or reconstructed shall accommodate the estimated 100-year flood flow, including debris and sediment loads."

§1037.5(b) Review Teams to be Established

"Review Team Function: The function of the review team shall be to assist the Director in determining if plans are in conformance with Board rules and to evaluate the potential environmental impacts of timber operations. Review criteria employed by a team shall be consistent with this function. The Board's regulations provide direction for those situations noted during the review which are not addressed by specific rules (14 CCR 898.1(f), 901- 903.2, 1655 & PRC 4555). In evaluating a plan, the review team shall review any discussion of feasible alternatives or additional mitigation to the proposed timber operation as prescribed in 14 CCR 898. Plan reviewers must consider the economic as well as the environmental benefits of feasible alternatives. The review team shall serve in an advisory capacity to the Director in making recommendations on plans. In the event that any member of the review team concludes that the plan as filed would have a significant adverse effect on the environment, that member shall explain

and justify this conclusion in writing as specifically as possible. The member shall provide in writing suggested site-specific mitigation measures, if any, that will substantially lessen the impacts."

If you have questions, you may e-mail or call **Julia Dyer at jdyer@waterboards.ca.gov or 805-594-6144.**

Sincerely,

FOR Roger W. Briggs
Executive Officer

Note - Regional Board staff photographed the site.

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